

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

I. Introduction and Status of the Claims

Claims 69-71, 73, 74, 77-80, 82 and 89-96 are pending in the application.

Claims 69-71, 73, 74, 77-80, 82 and 89-96 have been rejected.

Claims 69, 73, 79 and 89 are amended herein.

Claim 74 and 93-94 are cancelled herein.

Claims 69-71, 73, 77-80, 82, 89-92 and 95-96 are pending in the application after entry of the amendments herein.

II. 35 U.S.C. § 112, Second Paragraph Rejections Should Be Withdrawn

Claims 93-94 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Office Action at 2.

Applicants have cancelled claims 93-94 and, therefore, the rejection of these claims is now moot.

III. 35 U.S.C. § 103(a) Rejections over Smalley and Kim Should Be Withdrawn

Claims 69-71, 73, 74, 77-80, 82 and 89-96 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smalley et al. U.S. Patent 6,749,827 ("*Smalley*") in view of Kim et al., ("Synthesis of Ultralong and High Percentage of Semiconducting Single Walled Carbon Nanotubes," Nano Letters 2002, vol. 2, no. 7, pp. 703-708) ("*Kim*"). Office Action, at 3.

This rejection is respectfully traversed.

In its recent opinion in *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 U.S.P.Q.2d

1385 (2007), the Supreme Court noted that the obviousness analysis under § 103 should be explicit, and that it is important to determine whether there is “an apparent reason to combine the known elements in the fashion claimed” *Id.*, 127 S. Ct. at 1741.

Applicants have cancelled claims 74, 93 and 94, and, therefore, rejection of these claims is now moot.

Applicants have amended claim 69 to require, *inter alia*, that the surface is “flat” and “the nanotube is one of a plurality of substantially aligned carbon nanotubes.”

Thus, claim 69, as amended, now requires:

69. An individual single-walled carbon nanotube synthesized on a flat substrate, wherein the nanotube has a length of at least 1 mm from one end to an opposite end of the individual nanotube, wherein the nanotube is one of a plurality of substantially aligned carbon nanotubes, and wherein the nanotube is substantially isolated from other nanotubes.

No new matter has been added by virtue of this amendment. Support for the amendment may be found in at various places in the specification, such as, for example at paragraph [0084] “the parallel nanotube arrays are on the same flat surface,” paragraph [0058] “Well-aligned and well-isolated SWNT arrays can be directly grown on a substrate...”, paragraph [0056] “Methods and systems are described herein for fabricating lengthy, well-aligned SWNTs on a substrate,” paragraph [0032] “FIG. 4K is an SEM image of several individual SWNTs aligned parallel to one another grown according to a fast heating process,” and Figure 4K.

Neither *Smalley* nor *Kim* teaches or suggests “an individual single-walled carbon nanotube synthesized on a flat substrate, wherein the nanotube has a length of at least 1 mm from one end to an opposite end of the individual nanotube, wherein the nanotube is one of a plurality of substantially aligned carbon nanotubes, and wherein the nanotube is substantially isolated from other nanotubes.” Therefore, Claim 69, as amended, is not obvious over *Smalley* and *Kim*.

The office action cites col. 12, lines 8-22 of *Smalley* in support of the rejection. However, col. 12, lines 8-22 of *Smalley* discloses agglomeration of nanotubes on a wire, but does not disclose substantially isolated and aligned nanotubes on a flat substrate. The office action

also cites col. 23, lines 17-29 of *Smalley*. However, col. 23, lines 17-29 of *Smalley* discloses growth of nanotubes over an array of other nanotubes (which do not necessarily form a flat substrate), but does not disclose substantially isolated and aligned nanotubes on a flat substrate.

Kim discloses isolated nanotubes, but does not disclose how to form substantially aligned nanotubes. *Kim*'s nanotubes have random loops and ring structures. These random loops and ring structures would render plural nanotubes of *Kim* not aligned.

Thus, even if *Smalley* and *Kim* were combined, the resulting nanotubes would not necessarily be formed on a flat substrate. Even if the nanotubes were formed on a flat substrate, then they would be either aligned but not isolated as disclosed by col. 12, lines 8-22 and col. 23, lines 17-29 of *Smalley* or isolated but not aligned as disclosed by *Kim*.

Claims 70, 71, 73, 77, 78, 91, 92, and 95 are directly dependent upon claim 69 and are not obvious for the same reasons.

Furthermore, Applicants have amended claim 79 to require, *inter alia*, that “the nanotube is one of a plurality of substantially aligned carbon nanotubes” and “wherein the nanotube is about parallel to a surface of a flat substrate.”

Thus, claim 79, as amended, now requires:

79. A system comprising an individual single-walled carbon nanotube and multiple transistor or diode devices along the length of the nanotube, wherein the nanotube has a length of at least 1 mm from one end to an opposite end of the individual nanotube, wherein the nanotube is one of a plurality of substantially aligned carbon nanotubes, wherein the nanotube is about parallel to a surface of a flat substrate, and wherein the nanotube is substantially isolated from other nanotubes.

No new matter has been added by virtue of this amendment. Support for the amendment may be found in at various places in the specification, such as, for example, as cited above, and at paragraph [0076] “SWNT arrays 700 can include a first set of nanotubes 706 extending parallel to one another across surface 702.”

Neither *Smalley* nor *Kim* teaches or suggests “a system comprising an individual single-walled carbon nanotube and multiple transistor or diode devices along the length of the

nanotube, wherein the nanotube has a length of at least 1 mm from one end to an opposite end of the individual nanotube, wherein the nanotube is one of a plurality of substantially aligned carbon nanotubes, wherein the nanotube is about parallel to a surface of a flat substrate, and wherein the nanotube is substantially isolated from other nanotubes.” Neither *Smalley* nor *Kim*, taken individually or together, teach or suggest the limitations of claim 79 as amended for the reasons discussed above. Therefore, claim 79 is not obvious over *Smalley* and *Kim*.

Claims 80, 82, 89, 90 and 96 are directly dependent upon claim 79 and are not obvious for the same reasons.

Therefore, in light of the foregoing, Applicants respectfully request that the Examiner withdraw the rejection of claims 69-71, 73, 77-80, 82, 89-92 and 95-96 under 35 U.S.C. § 103(a) as being unpatentable over *Smalley* and *Kim*.

IV. 35 U.S.C. § 103(a) Rejections over Smalley, Kim and Lieber Should Be Withdrawn

Claims 73 and 76 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Smalley* in view of *Kim* and further in view of Lieber et al. U.S. Patent 6,781,166 (“*Lieber*”) Office Action, at 7.

This rejection is respectfully traversed. Lieber was applied only against dependent claims (where claim 76 has been cancelled) and does not remedy the deficiencies of the primary references.

Therefore, in light of the foregoing, Applicants respectfully request that the Examiner withdraw the rejection of claim 73 under 35 U.S.C. § 103(a) as being unpatentable over *Smalley* in view of *Kim* and further in view of *Lieber*.

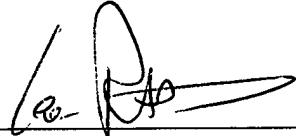
V. Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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